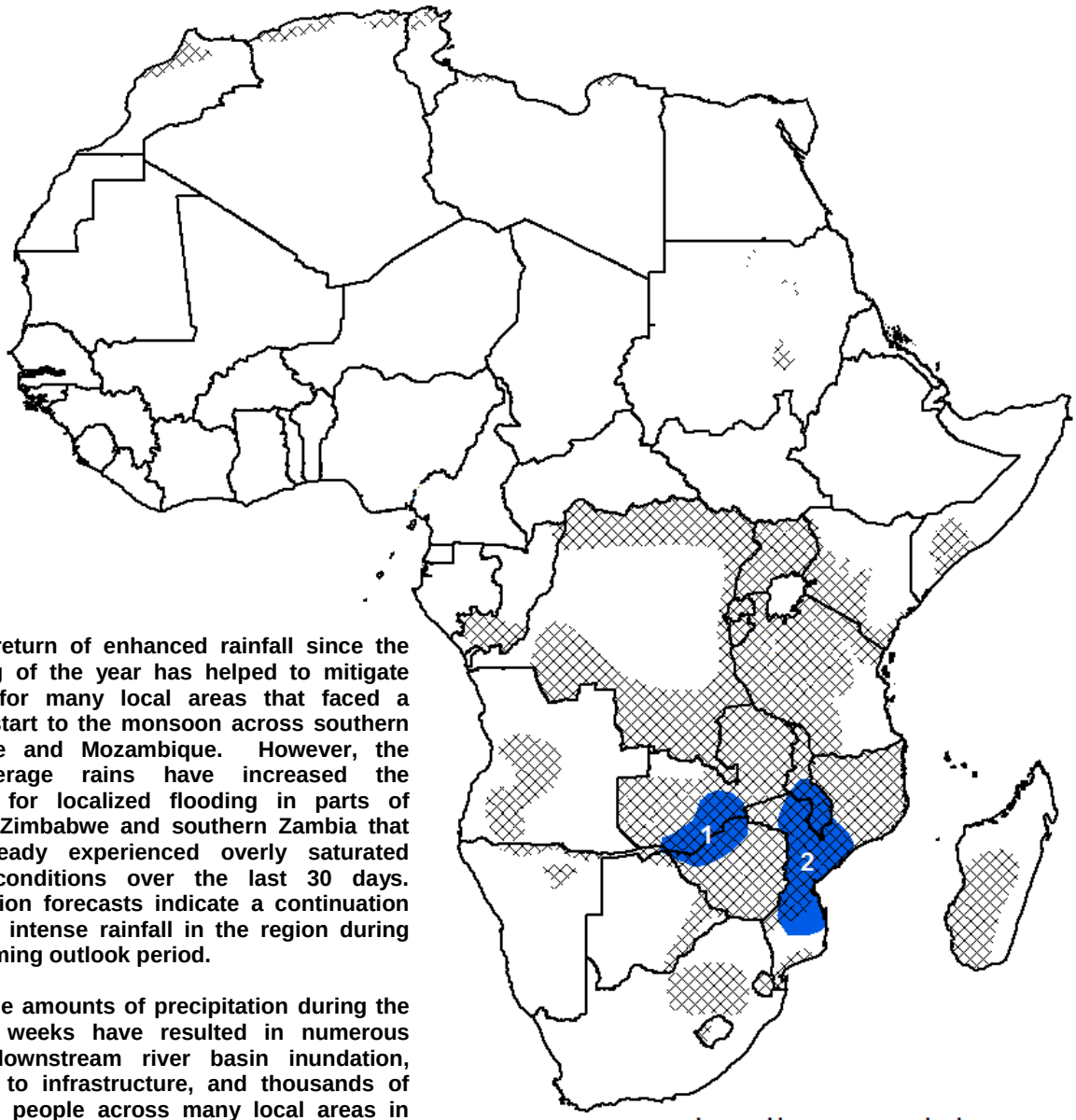
Climate Prediction Center's Africa Hazards Outlook
For USAID / FEWS-NET
January 17 – January 23, 2013

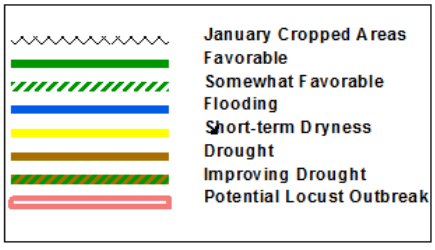
- **Robust, heavy rainfall continues and increases the risk of flooding over much of southeastern Africa.**



1) The return of enhanced rainfall since the beginning of the year has helped to mitigate dryness for many local areas that faced a delayed start to the monsoon across southern Zimbabwe and Mozambique. However, the above-average rains have increased the potential for localized flooding in parts of northern Zimbabwe and southern Zambia that have already experienced overly saturated ground conditions over the last 30 days. Precipitation forecasts indicate a continuation of locally intense rainfall in the region during the upcoming outlook period.

2) Extreme amounts of precipitation during the last two weeks have resulted in numerous floods, downstream river basin inundation, damages to infrastructure, and thousands of displaced people across many local areas in Malawi and Mozambique. Rivers located in Zambezi, Busi, and Pungue basins of Mozambique are already above alert levels, sustaining the potential for additional flooding, and possibly lead to damaged crops in the region. Heavy seasonal rainfall is expected during the next seven days.

Legend is very general, please see numbered descriptions for details.



Heavy rains continue in the south, increases flood risk.

During the last observation period, heavy amounts of weekly rainfall accumulations were received southern Africa. The most extreme precipitation amounts (>150mm) were concentrated along the Zimbabwe and Mozambique border, with high amounts (>75mm) extending northward from western Mozambique into the central and eastern provinces of Zambia (**Figure 1**). Further south, reduced and poorly distributed precipitation totals (<20mm) were received across many local areas of southern portions of Botswana, Zimbabwe, and South Africa. Lesser amounts of seasonal rainfall were also observed across western Angola.

After a delayed start and uneven distribution of rainfall throughout parts of Zimbabwe and Mozambique during December, the onset of very heavy rainfall during the last two weeks has markedly eliminated moisture deficits throughout many local areas in the region. However, the increased rains received since the start of the year have also further saturated areas that have already experienced average to above-average seasonal rainfall. Since mid-December, a broad coverage of 30-day precipitation surpluses exceeding 150mm can be seen extending from southeastern Angola across the continent towards central Mozambique (**Figure 2**). The highest surpluses are associated with the most extreme rains observed during the last seven days across Zimbabwe and Mozambique.

Given the location of the anomalously wet conditions in southern Africa, additional rainfall may begin to increase the risk of river basin inundation, particularly in the Zambezi and Kwando Rivers in southern Africa. Basin excess rainfall analyses already depict moderate conditions as of the 1st dekad of January, 2013 (**Figure 3**). If above-average seasonal rainfall persists throughout January, increased dam discharges from Zambia and Mozambique and excessively saturated ground conditions are likely to exacerbate downstream flooding during the next several weeks, which could possibly lead to displaced populations and crop losses.

For the upcoming outlook period, heavy 7-day rainfall accumulations (>75 mm) are again expected for many regions in southern Africa. There remains a high likelihood for extreme daily precipitation amounts over parts of northern Zimbabwe and in the southern, Lusaka, and central provinces of Zambia. The localized extent of heavy rains forecast in these areas may trigger flash flooding in the region. In addition, a high probability for enhanced rains is also expected over much of Botswana, southern Zimbabwe, and northern South Africa. In contrast, suppressed rainfall is expected across much of Tanzania, northern Mozambique, and Madagascar during the next week.

Satellite Estimated Rainfall (mm)
Valid: January 7th – January 13th, 2013

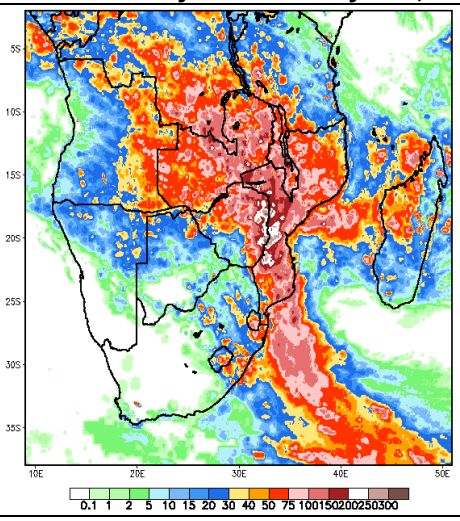


Figure 1: NOAA/CPC

Satellite Estimated Rainfall Anomaly (mm)
Valid: December 14th, 2012 – January 12th, 2012

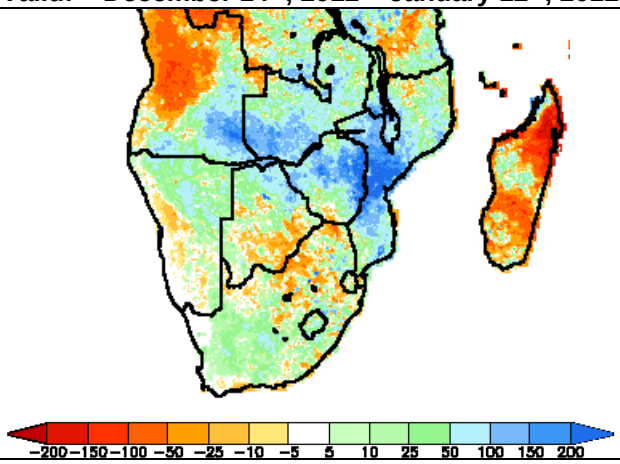


Figure 2: NOAA/CPC

Basin Excess Rainfall (BERM)
Valid: As of 1st dekad of January, 2013

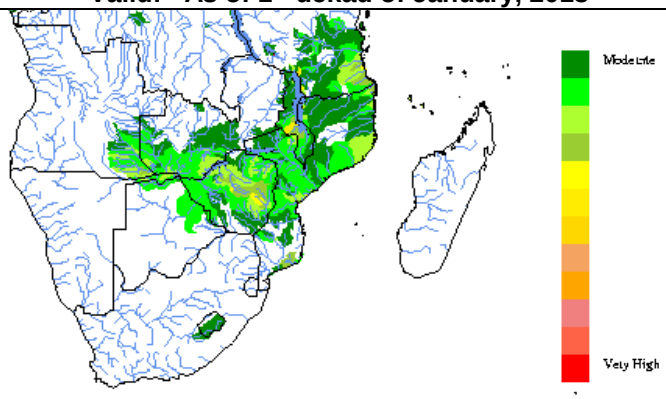


Figure 3: USGS/EROS

Note: The hazards outlook map on page 1 is based on current weather/climate information and short and medium range weather forecasts (up to 1 week). It assesses their potential impact on crop and pasture conditions. Shaded polygons are added in areas where anomalous conditions have been observed. The boundaries of these polygons are only approximate at this continental scale. This product does not reflect long range seasonal climate forecasts or indicate current or projected food security conditions.